2011 Military Health System Conference

Robotic Remote-Presence Readiness Training

The Quadruple Aim: Working Together, Achieving Success

Col Tom Langston, USAF, NC

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Wright-Patterson Medical Center
Wright-Patterson AFB OH

The MHS Mission

"… America has given us a humbling responsibility: The care of our country's fighting forces …" *– MHS Strategic Plan*

Provide optimal Health Services in support of our nation's military mission – anytime, anywhere
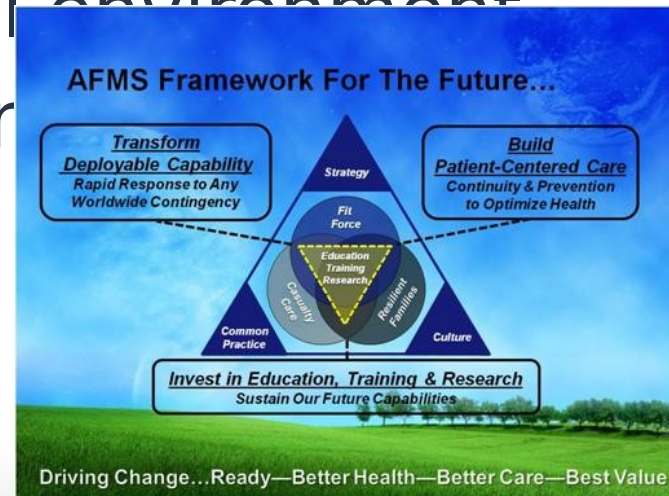
The Challenge

- We have great wounded warrior success rates, but how do we do it better?
  - Limited clinical experiences in many MTFs
  - Constrained fiscal environment
- Invest in education, training and research

Paradigm Shifts

- "Changing the way we think and act" to achieve breakthrough performance

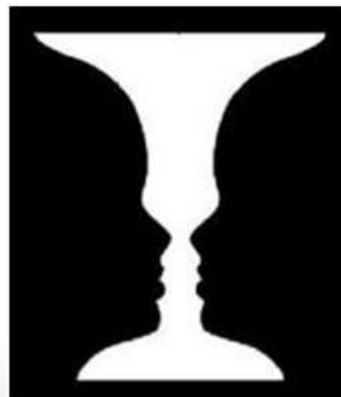| Old Paradigm	New Paradigm
Why should we…	Why couldn't we
Proprietary info…	Data sharing
Service-specific…	Joint

Achieving the Quadruple Aim

- Could we enhance training for war skills care by partnering with experts?
  - Innovative ideas generated during nursing research led by Col Elizabeth Bridges
    - Knowledge/skills related to burn care is lacking
    - Use of simulators to enhance trauma skills training
    - Ability to ob   care via tele-presence co   pathway to meet need

Partnerships Enable Innovation

- How might we partner with experts?
  - Cols Sherrill Smith, Rose Durning,USAFR,NC
    - Led major groundwork for remote presence readiness training; first tried at LRMC
  - Debi Sampsel, Executive Director, Nursing Institute of West Central Ohio
    - Used InTouch RP-7® Remote Presence Robot in research at Wright State University

Partnerships Enable Innovation

- Optimal Resource: U.S. Army Burn Center
  - Maj (P) Kevin Chung
    - U.S. Army Institute of Surgical Research; InTouch® robot from pilot project through Telemedicine & Advanced Technology Research Center (TATRC) gran
      ([___hil](#))

Relation to MHS Strategy

	Strategic Imperative	Exec Sponsor	Performance Measure	Development Status	Last Quarter	Current Performance	Change	FY2010 Target	FY2011 Target	FY2012 Target	FY2014 Target	Strategic Initiatives
Readiness	Ensure Individual and Family Medical Readiness	FHPC	Individual Medical Readiness		71%	74%	+3%	80%	81%	82%	85%	IMR programs (e.g., addressing dental class 4, overdue PHAs, etc.)
		TBD	Measure of Family Readiness (i.e., PHA for families)		-	-	-	-	-	-	-	
	Enhance Psychological Health & Resiliency	FHPC	PTSD Screening, Referral and Engagement (R/T)		44%/69%	48%/72%	+4/+3%	40%/65%	50%/75%	50%/75%	50%/75%	Psychological Health
		FHPC	Depression Screening, Referral & Engagement (R/T)		60%/73%	62%/74%	+2/+1%	40%/65%	50%/75%	50%/75%	50%/75%	
Population Health	Engage Patients in Healthy Behaviors	CPSC	MHS Cigarette Use Rate (AD 18-24)		22%	27%	-5%	20%	19%	18%	16%	Healthy Behaviors/Lifestyle Programs
		CPSC	Prevalence of Obesity Among Adults / Adolescents & Children		-	26%/9%	-	-	24%/8%	21%/7%	15%/5%	
		CPSC	HEDIS Index – Preventive Screens		12	12	-	12	13	13	14	
Experience of Care	Deliver Evidence-Based Care	CPSC	HEDIS Index – Adhering to Evidence Based Guidelines *(Include additional disparity measure)*		8	8	-	8	8	9	10	Evidence Based Care
		CPSC	Overall Hospital Quality Index (ORYX) *(Include additional safety measure)*		87%	90%	+3%	88%	89%	90%	92%	
		CPSC	Antibiotic Received within 1 Hour Prior to Surgical Incision		88%	92%	+4%	95%	100%	100%	100%	Wounded Warrior Programs
	Excel in Wounded Warrior Care	CPSC	MEBs Completed Within 30 Days		30%	52%	+22%	80%	60%	TBD	TBD	
		CPSC	Favorable MEB Experience Rating		46%	59%	+13%	45%	65%	70%	75%	
		CPSC	Care Coordination	-	-	-	-	-	-	-	-	Disability Evaluation System Redesign
	Ensure Access to Care	JHOC	Primary Care 3rd Available Appt. (Routine/Acute)		-	69%/51%	-	90%/75%	91/68%	92%/70%	94%/75%	
		JHOC	Getting Timely Care Rate		74%	77%	+3%	78%	78%	80%	82%	
		JHOC	Potential Recapturable Primary Care Workload for MTF Enrollees		-	29%	-	29%	26%	24%	22%	Patient Centered Medical Home
	Promote Patient-Centeredness	JHOC	% of Visits Where MTF Enrollees See Their PCM		45%	44%	-1%	60%	60%	65%	70%	
		JHOC	Satisfaction with Health Care		59%	60%	+1%	60%	61%	62%	64%	
Per Capita Cost	Manage Health Care Costs	CFOIC	Annual Cost Per Equivalent Life (PMPM)		10%	7.1%	-2.9%	6.1%				Performance Planning Pilots
		CFOIC	Enrollee Utilization of Emergency Services		72/100	45/100*	-	35/100	35/100	30/100	25/100	
Learning & Growth	Enable Better Decisions	CPSC	EHR Usability		-	-	-	-	-	-	-	EHR Way Ahead
	Foster Innovation	CFOIC	Effectiveness in Going from Product to Practice (Translational Research)		-	-	-	-	-	-	-	Centers of Excellence
	Develop Our People	CFOIC	Human Capital Readiness / Build Skills & Currency	-	-	-	-	-	-	-	-	BRAC / Facility Transformation
		CFOIC	Primary Care Staff Satisfaction		-	-	-	-	-	-	-	

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		CPSC	Overall H... *(Include a...* Antibiotic... Incision									
		CPSC										
	Excel in Wounded Warrior Care	CPSC	MEBs Co...									
		CPSC	Favorabl...									
		CPSC	Care Coo...									
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		JHOC	Getting T...									
		JHOC	Potential... MTF Enro...									
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		CFOIC	Primary C...									

WPAFB/BAMC Robotic Remote-Presence
- Uses telemedicine technology for learning
- Enables shared learning for Air Force medics through experience at BAMC without travel
- Enhances training for better care from battlefield to home

The Link

- Telemedicine technology enables e-learning
  - Remote Presence Robot at USAISR transmits to video teleconference to

The Link

- Making it happen at US Army Burn Center, 1,300 miles away; unique distance learning
  - C.D. Peterson, LPN, Wound Care Specialist
  - Maj Michael Pleuger,Jr., OIC Clinical Education, USAISR
  - ng, Medical Intensivist

Enhanced Learning

- Real-time observation of burn therapy x 2/mo
  - Kiley Gerritsen, Teresa Millwater at WPAFB
  - Visualization of various injuries/stages of Rx
  - Audio enables feedback/
  - rator at WPAF
  - ot/change vie

Enhanced Learning

- Combined learning modes
  - Joint Theater Trauma System Burn Care CPG
  - USAISR burn wound management slides
  - Human patient simulators for skills

Results

- Addresses research-identified training needs
- Real-time interaction with experts w/o travel
- Facilitates interaction in joint environment prior to deployment, w/o travel
- Enhances grasp of devastating burn injuries and complex, lengthy treatments
- Initial surveys provided positive

Recommendations

- Conduct more robust research to define effectiveness of training
- Incorporate additional skills for training
- Encourage similar links with other MTFs
- Explore links with civilian centers
- Consider use of web-cam device for similar training without use of robot
- Incorporate additional specific objectives in conjunction with hands-on simulator training

Possible Applications

- Possible use of links in deployed settings
- Potential for tailored use in Medical Interagency Satellite Training (MIST)
- Possibility of replacing existing training using similar type of distance learning
- Complement with use of virtual reality/avatar technology, modeling & simulation evolution

Questions

QUESTIONS?